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BRADLEY FIGHTING VEHICLE GUNNERY TRAINING DEVICES:
TRAINER ATTITUDES

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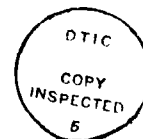
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) ▶ This report gives results of an attitudinal survey administered to Bradley Master Gunner students and instructors at Fort Benning in early 1986. Personnel rated the four Bradley gunnery training devices then available for use and/or demonstration. Attitudes toward the devices were more positive than expected. For this small sample, the Unit Conduct of Fire Trainer was rated highest, followed by the Bradley Subcaliber Device, the Bradley Gunnery and Missile Tracking System, and the Precision Gunnery System. <i>10000005</i>		

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BRADLEY FIGHTING VEHICLE GUNNERY TRAINING DEVICES: TRAINER ATTITUDES

CONTENTS

	Page
INTRODUCTION	1
Device Effectiveness	1
The Problem	2
METHOD	3
Subjects	3
The Devices	4
Materials	6
RESULTS	6
The Four Major Devices	6
Devices in General	8
DISCUSSION	10
CONCLUSIONS	12
REFERENCES	13
APPENDIX A. TRAINING DEVICE SURVEY	15

LIST OF TABLES

Table 1. Prior training	4
2. Attitudes toward specific devices (mean ratings)	7
3. Instructor (I) and student (S) attitudes (mean ratings)	8
4. Attitudes toward devices	9

BRADLEY FIGHTING VEHICLE GUNNERY TRAINING DEVICES: TRAINER ATTITUDES

INTRODUCTION

In conjunction with other work on the Bradley Fighting Vehicle (BFV), a number of training device classes offered by the Fort Benning Bradley Instructor Detachment were monitored. During these classes, BFV students, primarily Master Gunners, leaders and senior NCOs, were instructed in the capabilities of Bradley gunnery training devices. Few of these devices were actually in use, in units or in institutional training, and those which were available for viewing by the student population were prototype devices or tank gunnery devices potentially adaptable for the BFV. All of the devices, however, had been assessed as having utility in the overall Bradley gunnery training program; their effectiveness as potential gunnery trainers was established.

Although the Bradley Fighting Vehicle was fielded before gunnery devices were available, a limited concept evaluation program (CEP) test, Gowen South, was conducted in 1985 by the U.S. Army Infantry Board (USAIB, 1985), using a number of the gunnery devices. The test was designed to assess the effectiveness of several device based gunnery proficiency programs. This test, based on a very small sample of Bradley crews, showed differences in effectiveness of the tested devices. However, all of the training device based programs of instruction maintained gunnery proficiency of experienced gunners during sustainment training, and all demonstrated potential to provide initial training for inexperienced gunners. The effectiveness of the devices was measured only to the extent that they were deemed to be useful and useable; further testing and refinements to prototypes were recommended.

Device Effectiveness

Device effectiveness, and the measurement thereof, is not a new area of research. Training device effectiveness research reports and reporters are diverse. The literature is extensive, and as varied as the personnel, perspective and specific devices can make it. For example, the Naval Training Equipment Center (1972) provided an overview on transfer of training studies and fidelity of simulation; the PM TRADE 1984-1988 Requirement Projections indicated an increasing demand for technological support for simulations for both collective and individual training. Conference papers address both simulation issues (McCluskey, 1971) and the need for systematic assessments of device effectiveness (Finley & Strasel, 1978).

The 1985 NATO Symposium on the Transfer of Training to Military Operational Systems (1985) covered global philosophical issues as well as specific research programs and experiments. This symposium, contributed to by scientists from throughout the world, was divided into four separate areas. The first focused on training device effectiveness; the second, methods for enhancing transfer. Acquisition and retention of learned skills, and performance measurement comprised the final sections, a diverse set of presentations in the area of device effectiveness. Rose's (1985) contribution to the NATO Symposium separated device effectiveness into three major areas. He noted that an effective device

promotes transfer of training to the parent equipment; enables trainees to acquire necessary skills and knowledges rapidly; and is accepted by the instructor and trainee who interact with it.

Traditionally, training devices have been measured for effectiveness in terms of positive transfer of training, and the extent to which a device can be substituted for training on the actual equipment. Shelnutt, Smillie and Bercos (1978) offered a multi-service literature review on measurement of device effectiveness; Melching and Healy (1982) and Abel (1986) focused on effectiveness of specific tank gunnery devices; Bauer (1978) worked with mini-tank ranges. A TRASANA training development study (Butler, 1982) and a paper by Graham (1986) studied Bradley and M1 Tank Unit Conduct of Fire Trainers. The amount of training transfer, measured by criterion performance, has also been assessed; cost effectiveness or trade off is frequently considered. A particularly thoughtful paper by Boldovici and Sabat (1985) covered measurement of transfer from devices to weapon systems, and some of the more frequent errors occurring therein.

Less often discussed, although often mentioned as a potentially important factor in device effectiveness is user acceptance. Rose, Wheaton and Yates (1985) suggested that devices may be poorly accepted if they seem to add to the instructor's workload by requiring him to learn about a sophisticated device or learn complex steps for operation. However, they stated that "beyond emphasizing sound human engineering practices ...there is little that can be done by the device designer to increase the probability that the device will be considered to be relevant to instructors and trainees." (Rose, et al., 1985, p.23) They suggested that the real issue might be that of convincing personnel, through empirical evidence of successful training, that the training system will lead to better job performance. However, in the case of convincing trainees and instructors in an institutional environment where the devices are not yet available for training, and the evidence needed has not yet been collected, the education process becomes critical.

The Problem

After several observations of Bradley training device classes and device demonstrations, it became apparent that there was a general prevalence of negative attitudes or almost total disinterest on the part of both the students, and the instructor cadre. Some negativism was shown toward specific devices, but more often, toward devices in general. It was readily apparent that typically, those who did not know what the devices were designed to do, and who had never seen them in operation, and were therefore basically ignorant of the device, were apt to be most negative, and were most likely to maintain that the device was "no good." Also, prototype devices which tended to break easily, or showed a high rate of "down time" were similarly dismissed as being useless, despite their real

value to Bradley gunnery training. Additionally, a device which was complicated to install, or or difficult to learn to use was viewed in a negative manner.

Trainers are responsible for the implementation of devices into a unit's training; it is apparent that a device will not be used, even if readily available, if the trainer does not feel that the device is both useful and useable. The implications of the failure to use appropriate devices are obvious and important, particularly in the fielding of a new system like the Bradley. Since the Master Gunner is the advisor on training to his unit, and since the Fort Benning Master Gunner Course, an intensive twelve week course of instruction, was at the time of this research the only one which taught devices, a project was initiated to assess trainer (Master Gunners) and potential trainer (Master Gunner students) attitudes toward the various BFV gunnery devices.

The device assessment survey was designed as a long term effort, with continuous accumulation of data; however the effort was suspended after only three iterations of classes, because of a change in the manner the class was presented, due primarily to non-availability of the equipment, and non-availability of trained personnel to operate it. Thus the results must be interpreted as tentative in that they represent the opinions of only three small student/instructor groups.

METHOD

Subjects

Three classes of BFV Master Gunner students and instructors at Fort Benning were surveyed during the early spring of 1986. Of the 77 personnel, there were 59 students, 16 instructors, and two others. Forty-six were MOS 11M (Fighting Vehicle Infantryman), 30 were MOS 19D-D3 (Bradley Scout), and one Infantry Captain was included. For the NCOs, four were E5, 55 E6, and 17 E7, with a mean of 10.67 (sd 3.28) years in service. Many of the students and the majority of the instructors had some prior Bradley training, at various locations. Table 1 shows the location of this training, with some respondents having answered in more than one category; other respondents either had no previous Bradley experience, or failed to make a response.

For each of the three classes (students and instructors) there was considerable exposure to four BFV gunnery devices: the Unit Conduct of Fire Trainer (U-COFT), the Precision Gunnery System (PGS), the Bradley Gunnery and Missile Tracking System (BGMTS), and the BFV Subcaliber Device. Each of these four gunnery devices was allocated time in the training device class lesson plan; and all were available for use or demonstration.

Table 1

Prior Training

	Instructors	Students
Fort Benning BFV Master Gunner Course	14	0
Fort Benning BFV Gunner or Commander Course	8	8
USAREUR New Equipment Training (NET)	3	26
Fort Hood New Equipment Training (NET)	2	19
Fort Knox Transition Course	5	0

The Devices

Unit Conduct of Fire Trainer. The U-COFT is a computer-based gunnery simulator. It replicates the interior of the BFV turret, and requires that the Bradley commander and gunner perform the same steps and gunnery skills as they would in the vehicle, while engaging simulated threat targets. Using computer generated graphics, the U-COFT provides single and multiple stationary and moving targets at different ranges under varying visibility conditions. Progression through the gunnery matrix is controlled, and systematic, requiring skill mastery at one level before advancement to the next. The U-COFT permits an intensive number of firing engagements in a relatively short time, and provides gunnery experiences not usually available. Exercises offer extensive practice in missile firing, and degraded mode (NBC, malfunctions) engagements, including both manual operations and firing with the auxiliary sight.

U-COFT training, primarily sustainment training, is designed to be based on the progress of the individual soldier; in its use at Fort Benning in the BFV classes, however, each student receives a preplanned series of scenarios designed to familiarize him with some of the skills he will be using on the range in live fire exercises. The students receive a classroom briefing on the U-COFT, its capabilities and characteristics, followed by 4 to 5 days of U-COFT firing exercises. The device was in its initial stages of fielding at the start of the survey; therefore although all of the students had received U-COFT training, many of the Master Gunner instructors had received only limited exposure to the U-COFT and several had not yet fired it.

Precision Gunnery System. The PGS is a strap-on system which appends an eye safe laser to the BFV and reflecting detectors on targets. The PGS is interactive and can be used for tactical exercises. It can be used for 25mm, coax, or TOW missile firing, utilizing the same procedures as are

required in the vehicle. A computer printout and display indicate hits and misses, and the amount of deflection in azimuth and elevation for each shot; it also indicates the time between rounds, and number of rounds remaining. In a force on force engagement, a target vehicle which has been hit is incapacitated, as indicated by a visual signal. The PGS system is different from the Multiple Integrated Laser Engagement System (MILES), in that trajectory and real (elapsed) time are incorporated into the system and a simulated tracer can be seen in the gunner's reticle.

In the BFV classes at Fort Benning, the PGS device used was a prototype model. Students affixed it to the BFV and used it at relatively short ranges to shoot at other close in vehicles in a motor pool. Although the students were informed of the printout capability, it was not operational and few of either group saw this function. The potential for tactical employment was rarely exposed; focus was on its attributes as a simple gunnery trainer.

Bradley Gunnery and Missile Tracking System. The BGMTS is a prototype model which has been adapted from a comparable tank device, the Tank Gunnery and Missile Tracking System (TGMTS). The BGMTS, added to the Bradley, uses an eye safe laser beam which is aimed at a wide-angle rear projection screen on which is projected a film depicting threat targets in a realistic scenario. The film presents single and multiple targets at different ranges; successful hits are designated by a computer print out or by visual inspection of the simulated trajectory of the round. Normal gunnery skills and procedures are required of the gunner and commander. The Master Gunner students and instructors were transported to the building in which the BGMTS was housed; the students had an opportunity to use the device for a very short time.

Bradley Subcaliber Device. The BFV Subcaliber Device is an adaptation of several tank gunnery devices. The tank Brewster Device was modified by the Fiaoni Adapter; the Reavis Device made it compatible with the BFV, and the Payne Wiring Harness forced adherence to the steps of BFV gunnery. The composite device, usually referred to as the Subcal Device, consists of a motor and metal frame mount which are appended to the barrel of the 25mm gun. Using 5.56mm ammunition or caliber .22 with the rimfire adapter, the device is used with scaled ranges and targets, while using all the procedures required in full scale gunnery. The subcal device was used for live fire by each of the students during their training.

Other Devices. Only one class had familiarity with a final BFV gunnery training device, the Video-disc Interactive Gunnery Simulator (VIGS) which is a portable tabletop part-task gunnery trainer. Although many instructors were familiar with the trainer, since the device would not be available for all the student classes and the remainder of the instructors, it was not included in the list of assessed devices. MILES was not included as a training device because although it is often referred to a device, it is an evaluation tool, and not technically a training device. Additionally, most of the students had not had any experience with BFV MILES as it was not available for their training. An additional device, the Thru-sight-video (TSV) can be used in gunnery training, but was not available for student use

or demonstration during this time period. Few of the instructors were aware of its capabilities, and only a few personnel, from the Armor School, had any familiarity with it.

Materials

The device surveys were administered to the students near the end of their training cycles. The students worked independently, at their own pace, in a classroom setting; the instructors worked individually. The survey consisted of two pages of statements. (See Appendix A.) The first page contained seven statements about each of the four devices, BGMTS, PGS, U-COFT and BFV Subcal. The statements covered the training realism of the device, and at what stage (if any) in training it should be used. Statements also dealt with the number of positive and negative features, the cost, and whether improvements to the device would make it more useful.

The respondents marked a six-point Likert Scale according to how strongly they agreed or disagreed with the statements. The phrasing forced use of both ends of the scale from 1 (strongly agree), 2 (agree), 3 (slightly agree), to 6 (strongly disagree). The second set of 36 statements covered devices in general, attributes of specific devices, and comments on BFV gunnery training. The instructions indicated that there were no "right" answers; only the opinions of the respondents were requested. One number was available for "No Opinion" as pre-testing of the form indicated that some individuals were unfamiliar with specific items, or, perhaps legitimately, felt that they had no opinion, or not enough knowledge, to comment on a particular device or statement.

RESULTS

For several reasons, no statistical analysis of the data was attempted. First, due to the varying backgrounds of the personnel, and the unknown amounts of exposure to Bradley gunnery, training and devices, assumptions of independence of responses could not be supported. Secondly, comparisons of the responses with each other clouds the issue of the attitudes toward the devices. Means are offered for convenience of data presentation; the variance was very high in almost every case and because of the "no response" category, different numbers of persons answered the questions. However, trends in the data are readily apparent. The data was not separated according to the three class iterations, as although the student population changed, information was received from most of the instructor group during the first assessment; only new instructors were included in later iterations.

Four Major Devices

On the first set of questions, both the students and the instructors overwhelmingly preferred the U-COFT to the other devices, although the subcaliber device was also well liked. BGMTS did not score well, and PGS was ranked least favorably on every dimension. Table 2 shows the attitudes toward each device.

Table 2.

Attitudes Toward Specific Devices (Mean Ratings)

	<u>BGMTS</u>	<u>PGS</u>	<u>SUBCAL</u>	<u>U-COFT</u>
shows realism	3.03	3.09	2.41	1.94*
use for basic/cross	3.09	3.32	2.21*	1.91*
use for sustainment	3.33	3.39	2.55	1.92*
use not at all	4.39	4.18	5.23*	5.30*
not worth the money	4.00	3.91	4.75	4.82
more pos features than neg	3.28	3.22	2.40	1.69*
if improved then ok	2.62	3.02	2.22	2.03*

Note. Responses range from 1, strongly agree, to 6, strongly disagree. Items with * are those where, based on the Z score for the 75% confidence limits, the responses were either higher or lower than would be expected.

Both the U-COFT and Subcal devices were rated as more realistic and useful in training than the PGS and BGMTS. Respondents disagreed with statements that the devices should not be used at all or are not worth the money, but again the magnitude of response favored the U-COFT and the Subcal.

Separating the data into student and instructor groups, shows similar but not identical results. Table 3 shows instructor and student attitudes.

Although sample sizes are reduced by this procedure, trends are again apparent. The students were generally more favorable about the training use of the U-COFT than are the instructors, while the instructors were somewhat more favorable about the value of the PGS and the Subcaliber Device.

Table 3

Instructor (I) and Student (S) Attitudes (mean ratings)

	<u>BGMTS</u>		<u>PGS</u>		<u>SUBCAL</u>		<u>U-COFT</u>	
	<u>I</u>	<u>S</u>	<u>I</u>	<u>S</u>	<u>I</u>	<u>S</u>	<u>I</u>	<u>S</u>
shows realism	3.27	3.00	3.09	3.17	2.17*	2.47	3.08	1.68*
use for basic/cross	3.58	3.04	3.55	3.34	2.00*	2.25	3.00	1.60*
use for sustainment	3.67	3.31	3.09	3.54	2.17*	2.63	2.85	1.73*
use not at all	4.27	4.63	5.40*	3.89	5.56*	5.17*	5.00	5.35*
not worth the money	4.00	3.93	4.45	3.70	4.30	4.81	4.09	5.06
more pos than neg	3.55	3.32	3.11	3.32	2.42	2.44	2.33	1.56*
if improved then ok	3.44	2.49	2.78	3.10	2.36	2.22*	2.92	1.85*

Note. Responses range from 1, strongly agree, to 6, strongly disagree. Items with * are those where, based on the Z score for the 75% confidence limits, the responses are either higher or lower than would have been expected.

Devices in general

The second set of questions covered overall impressions about devices. On this series of statements, again the phrasing was such that the respondents were forced to use both ends of the scale. There were more instances of no answer or no opinion, due in part to the individual soldiers' relative amounts of experience with devices and with the Bradley or other tracked vehicles. Table 4 shows the results.

A number of statements evoked strong reaction on the part of the respondents. The group felt that devices are useful, and they had strong feelings about certain device characteristics. A very strong disagreement (5.59) was evoked by the statement that the commander and gunner do not have to train together, and that devices do not need to train thermal gunnery (5.49). There was overall agreement that gunnery trainers need to provide potential for malfunction/misfire training. They also denied that all devices are junk (5.62), and that maintenance trainers are the only good ones (5.48). Although there were some differences between the instructors and the students, they are probably not meaningful due to the extremely high variance and are therefore not reported here.

Table 4

Attitudes Toward Devices

only BFV provides realistic training	3.25
gunners trained on U-COFT = gunners BFV	3.65
most important is easy operation/install	2.94
simulators are just video games	4.87
no substitute for live fire	2.43
MILES is all that is needed	4.82
scale range not equal full scale	3.47
high tech devices not needed	4.23
part task trainers not worth the money	3.89
sounds of live fire necessary	2.85
need device for training tactics	3.66
devices break all the time	4.02
subcal takes too long to install	4.10
U-COFT is just cartoons	4.97
BC & G don't have to train together	5.59*
gunnery trainer needs malf/misfire	1.83*
lasers not safe in training	5.05*
25mm gunnery is extremely difficult	3.61
device w/o fire commands is no good	3.44
range density makes devices mandatory	2.12
BGMTS film does not look real	3.48
tnng devices have too much negative transfer	4.07
PGS is MILES with new name	3.87
BFV needs driver trainer	3.49
gnry devices not need to train thermal	5.49*
devices don't teach right things	4.63
subcal does not help with full cal	5.12*
scaled ranges need more movers	2.44
no training device will help BFV gnry	5.49*
command level does not support devices	3.74
U-COFT is too complicated	4.88
all devices are pieces of junk	5.62*
maintenance devices only good ones	5.48*
platoon ldr tnr needed more than gnry tnr	4.95*
night gunnery is a farce	5.36*
little practice on BFV better than lot device	4.23
device w/o fire commands no good	3.44

Note. Responses range from 1, strongly agree, to 6, strongly disagree. Items with * are those where, based on the Z score for the 75% confidence limits, the responses were higher or lower than expected.

DISCUSSION

Attitudes were not entirely positive, with great variation between individuals, but there was an encouraging and surprisingly high acknowledgement that training devices are valuable. Although most Master Gunner instructors and students would prefer to train on the vehicle itself, they concur in the need for devices, and the potential for transfer to range gunnery. Their written responses were far more positive than their verbal comments during training.

No attempt was made to determine the actual amount of time any student or instructor had spent on any device; past experience shows this type of question to provide unreliable data. Respondents either cannot remember accurately, or they give the answer they think the questioner wants. Subjects were also not asked to offer any objective evaluation of the utility or effectiveness of any of the devices, nor were they asked to rate them in relation to each other. The assessment was based simply on their opinions; perhaps the ability to offer comment privately brought more candor than is normal in group sessions.

Throughout, there was a preference for the U-COFT to other devices, although this trend is more pronounced for the student group. There is no one explanation for such a finding, but it would seem likely that the instructors' lesser amount of experience on the U-COFT may have impacted on ratings. (Studies and attitude surveys conducted since the time of this survey indicate extremely high acceptance of the U-COFT.) For this sample, the other preferred device is the subcaliber device, one which is in fact, somewhat limited in usefulness in that only scaled ranges can be used and the gunner's own vehicle must remain stationary. The high ratings may be seen as acknowledgement of the value of subcaliber firing before full caliber firing exercises, or, more likely, because both the students and the instructors had had a great amount of experience with this device, and were completely aware of both its attributes and its limitations.

The results of this survey are not entirely in line with those of the Gowen South test (USAIB, 1985) in which the four devices were twice attitudinally rated. In the first phase of Gowen South, following initial training, the devices were rated according to ease of use, goodness of performance and operating characteristics, and acceptability. For that sample, the BGMTS was rated highest on all three dimensions, followed by the U-COFT. PGS and the Subcal Device were similar to each other, but lower rated than the others. In rating after Phase II sustainment training, the U-COFT was preferred to the BGMTS, but again the two were rated higher generally than the PGS and the BFV subcal device. Interestingly, with familiarity over time (i.e., on the second set of tests), the attitudes toward the Subcal device, the U-COFT and the PGS became more favorable, while attitudes toward the BGMTS became slightly less favorable.

A system similar to the PGS (the SAAB BT-41 Tank Combat Simulator) was favorably received by the Armor School testing the Tank Weapons Gunnery Simulation System (TWGSS) concept with the M60A1 tank. Although there were

problems with the prototype device durability and reliability, the user group thought the system provided good training benefits, and preferred it to subcaliber devices. (Ruegemer, 1982). A comparably positive attitude toward the BT-41 was also reported by Melching (1982). Part of the inability of the BFV Master Gunner instructors and students to realize the (acknowledged) value of the PGS may thus be a result of their limited exposure to it.

Similarly, the BGMTS may have suffered in comparison to the other two because of the limited time in which the students and instructors had available to train with it. It also had only one film, and despite its realism, the classes may have become bored with it while waiting to fire. In contrast, the U-COFT was used for five days over a ten day period; the subcal was used for most of one entire day, and each student/instructor fired with it repeatedly.

Abel's 1986 assessment of performance of soldiers on a Battlesight Tank Gunnery Video Game suggests that the apparent intrinsic interest of video games may account for their acceptability; to the extent that the U-COFT is perceived as a video game it may be favored, although the ratings for a similar question indicate that the U-COFT is perceived as more than a game. This intrinsic interest and motivational factor may have enhanced the ratings, however. The students, but to some extent the instructors also, may have felt that they were expected to respond in a favorable manner about the U-COFT; they were aware of its relatively high cost, its newness, and of the great amount of time allocated to it in the Master Gunner Program of Instruction. Although it is unlikely, opinions could have been favorable for this reason alone.

The subcal device, although new to the Infantry community, may have been familiar to Cavalry students as it is based on a similar device available for the tank. The BGMTS may also have received some favorable (or unfavorable) comment on this basis as some of the students and instructors were familiar with the Tank Gunnery Missile Tracking System (TGMTS).

Another item of interest is the apparent difference between the students and the instructors in perceptions of some of the devices. The instructors with somewhat greater familiarity with the PGS were more likely to rate it higher than were the students. Similarly, the students were more favorable toward the U-COFT than were the instructors, some of whom had at that point in time very little familiarity with the device, and less firing time than the students.

The instructors were more apt to prefer the vehicle to any device, and were, although convinced of the need of gunnery devices because of range and ammunition limitations, less likely to acknowledge a need for tactical and/or driving devices. This can probably be attributed to the greater familiarity with the skills required in BFV operation, and the greater amount of time they had practiced them.

CONCLUSIONS

Although the research reported here is based on a small sample of Bradley personnel, and the survey can be at best described as a pilot, done on prototype devices, the results suggest some cautions and potential guidance. Broad statements indicating dissatisfaction with devices were, for this group, apparently little more than conversation, and most attitudes were more favorable than would have been projected. This is, in itself, encouraging.

However, the fact that there were so many negative comments on potentially valuable devices underscores the importance of training the trainer. Instruction must stress the benefits and attributes of devices available and potentially available, to insure maximum use when the devices are fielded, and when former students assume decision making positions. Inadequate information, or insufficient time to use and become familiar with a new device, may prevent it from being used when appropriate. At a time when ammunition constraints and competition for ranges makes live fire gunnery supplements mandatory, it is imperative that potential leaders and trainers, especially the Master Gunner, be fully informed on the Bradley gunnery training devices.

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APPENDIX A

BRADLEY FIGHTING VEHICLE GUNNERY TRAINING DEVICE SURVEY

The Bradley Gunnery and Missile Tracking System (BGMTS) provides realistic training.

BGMTS should be used for basic/cross training.

BGMTS should be used for sustainment training.

BGMTS should not be used at all.

BGMTS is not worth the money.

BGMTS has more positive features than negative features.

If this device were improved it would be good.

The Precision Gunnery System (PGS) provides realistic training.

PGS should be used for basic/cross training.

PGS should be used for sustainment training.

PGS should not be used at all.

PGS is not worth the money.

PGS has more positive features than negative features.

If this device were improved it would be good.

The Bradley Subcaliber Device provides realistic training.

The Subcal Device should be used for basic/cross training.

The Subcal Device should be used for sustainment training.

The Subcal Device should not be used at all.

The Subcal Device is not worth the money.

The Subcal Device has more positive features than negative features.

If this device were improved it would be good.

The Unit Conduct of Fire Trainer (U-COFT) provides realistic training.

U-COFT should be used for basic/cross training.

U-COFT should be used for sustainment training.

U-COFT should not be used at all.

U-COFT is not worth the money.

U-COFT has more positive features than negative features.

If this device were improved it would be good.

Only the Bradley provides realistic training.
 Gunners trained in gunnery skills on the U-COFT will shoot as well as
 gunners trained on the BFV.
 The most important requirement for a training device is easy installation
 and operation.
 Simulators are just video games and have no place in training.
 There is no substitute for live fire.
 MILES is all that is needed for the BFV.
 Firing on scaled ranges is nothing like firing on full scale ranges.
 Hi tech devices are not what the Army needs for the Bradley.
 Part task trainers are not worth the money.
 Sounds of live fire are necessary for good gunnery training.
 The BFV needs a device for training tactics.
 Training devices break all the time.
 It takes too long to install the Subcal Device.
 The U-COFT is just cartoons.
 The BC and Gunner do not have to train together.
 A gunnery trainer needs to have the gunnery correct malfunctions and react
 to misfires.
 It is not safe to use lasers in training.
 25mm gunnery is extremely difficult.
 Range densities make gunnery training devices mandatory.
 The BGMTS film does not look real.
 Training devices have too much negative transfer.
 PGS is just MILES with another name.
 The BFV needs a driver trainer.
 Gunnery training devices don't have to train thermal gunnery.
 Most training devices don't teach the right things.
 Subcal gunnery training does not help with full scale gunnery.
 Scaled ranges need more movers.
 No training device will help with BFV gunnery.
 The command level does not support gunnery training devices.
 The U-COFT is too complicated.
 All training devices are pieces of junk.
 Maintenance trainers are the only good training devices.
 A platoon leader trainer is needed more than any trainer for a gunner.
 Night gunnery is a farce.
 Even a little practice on the BFV is better than a lot of practice on a
 device.
 A device that doesn't train fire commands is no good.